INFORMATION DISCLOSURE STATEMENT

Accompanying this amendment is an Information Disclosure Statement, 1449 form listing references and a copy of each reference. The cited references accompanying the Information Disclosure Statement were the same references filed previously but not considered by the Examiner because of informalities. The Examiner is requested to review the references and make them of record in the case.

DRAWINGS

Formal drawings are attached herewith. Applicant has amended the specification to conform the figure legends for Figures 2 and 5 with the drawings.

SPECIFICATION

The specification is objected to because it contains an embedded hyperlink at page 19, line 26. Applicant has amended the specification in two places to delete the hyperlink and replace it with a text reference to the cited web site.

REJECTION UNDER 35 USC § 112, FIRST PARAGRAPH

The rejection of claims 1-4 as allegedly lacking enablement is respectfully traversed. Applicant has amended the claims to delete "functional fragment" language and "substantially the same." Applicant does not agree with the allegation that these terms encompass a range of nucleic acids that would not be enabled by the specification. Nonetheless, these phrases have been deleted from the claims so as to further prosecution of the case.

The examiner states that the specification does not evidence the use of the claimed nucleic acid sequences as a tumor suppressor. Applicant respectfully disagrees. For example, page 35 lines 1-10 of the specification describes using proliferative assays with cells such as mammalian cells lines, yeast cells, insect cells and amphibian cells. The specification goes on to show in Example II, the use of a soft agar colony assay to demonstrate tumor suppressor activity of the claimed tumor suppressor nucleic acid.

Further disclosure of methods for measuring tumor suppressor activity through anchorage independent growth are shown in Examples IV and V. It is noted that such assays are of the general type used for diagnostic analysis of tumor suppressor activity.

Finally, the Examiner argues that the specification fails to demonstrate that the claimed tumor suppressor nucleic acid can be used in cancer therapy. It is respectfully submitted, however, that the claims are directed to a nucleic acid composition, not a method of human therapy. As such, Applicant need only enable use of the composition in cultured cells. As discussed above, the specification demonstrates that the claimed nucleic acids function as tumor suppressors in various cultured cells. Thus, the specification fully satisfies enablement of the presently pending claims.

In view of the above, Applicant requests that the Examiner withdraw the rejection for lack of enablement

REJECTION UNDER 35 USC § 112, SECOND PARAGRAPH

The rejection of claims 1-4 as allegedly being indefinite for the phrases "functional fragment" and "substantially the same" has been rendered moot by amendment herein.

REJECTION UNDER 35 USC § 102 OVER U.S. PATENT 5,821,118

The rejection of claims 1 and 2 as allegedly lacking novelty over U.S. Patent No. 5,821,118 is rendered moot by cancellation of these claims.

REJECTION UNDER 35 USC § 102 OVER WO 97/46675

The rejection of claims 1 and 2 as allegedly lacking novelty over WO 97/46675 is rendered moot by cancellation of these claims.

REJECTION UNDER 35 USC § 102 OVER WO 99/02675

The rejection of claims 1-4 as allegedly lacking novelty over WO 99/02675 is respectfully traversed. The rejection is rendered moot with respect to claims 1 and 2.

Relevant Law

Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *In re Spada* F.2d, 15 USPQ2d 1655 (Fed. Clr, 1990); *In re Bond*, F.2d , 15 USPQ 1566 (Fed. Clr. 1990); *Soundscriber Corp. v. U.S.*. 360 F.2d 954, 148 USPQ 298, 301, *adopted* 149 USPQ 640 (Ct. Cl.) 1966. *See, also, Richardson v. Suzuki Motor Co.*, 868 F.2d 1226,1236, 9 USPQ2d 1913,1920 (Fed. Cir.), *cert. denied*, 110 S.Ct. 154 (1989). Moreover it is incumbent on Examiner to identify wherein each every facet of the claimed invention is disclosed. *Lindemann Maschinen-fabrik Gmbh v. AMerican Hoist and Derrick Co.*, 730 F.2d 1452, 221 USPQ 481 (Fed. Cir. 1984).

The Examiner alleges that the nucleotides 902-916 of Figure 1 of the reference patent destroys novelty of the claims. As the claims do not read on functional fragments of the claimed nucleic acids, the claims do not encompass the specified fragment in Figure 1 of the reference. Thus, the claims are novel over WO 99/02675.

Furthermore, it is noted that the Examiner has failed to identify where the reference teaches that the sequence encodes a polypeptide that functions as a tumor suppressor. Applicant has reviewed the reference but could find no such teaching. Thus, the rejection fails to identify another essential element of the claims. Accordingly, the Examiner is requested to withdraw the rejection.

SUMMARY

It is respectfully submitted that the above amendments and remarks place the application in condition for allowance. Accordingly, reconsideration and favorable action on all the claims is respectfully requested. If a telephone call would further prosecution of this case, the Examiner is invited to call the undersigned attorney at (858) 847-6722.

The Commissioner is hereby authorized to charge the fee for the extension of time and any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 50-0872. Should no proper payment be enclosed herewith, as by a check being in the wrong amount,

unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 50-0872. The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§1.16, 1.17, and 1.21 that may be required by this transmittal, or to credit any overpayment, to **Deposit Account No. 50-0872**.

Respectfully submitted,

Date: February 26, 2003

By: Barry Wilson

FOLEY & LARDNER
P. O. Box 80278
San Diego, California 92138-0278
Telephone: (858) 847-6722
Facsimile: (858) 792-6773

Barry S. Wilson
Attorney for Applicant
Registration No. 39,431

AMENDMENTS TO THE SPECIFICATION

Text at page 4, lines 15-18:

Figures 2A, 2B, 2C and 2D, respectively, show [~~Figure 2 shows~~] soft agar [colonies formed] **colony formation** in HF cells**; HF cells prior to transfection with ribozyme; HF cells** stably transfected with ribozyme 568 (Rz 568), **and HF cells stably transfected with disabled ribozyme (d568)** [~~or its disabled counterpart, d568~~], after two rounds of soft agar selection.

Text at page 5, lines 5-9:

Figure 5 shows colonies of Hela and HF cells formed after transfecting cells with **vector control (5A and 5B), with** HTS1 (hPPAN) **(5C and 5D), and with** [~~or~~] a frameshift mutant (FS) **(5E and 5F)** [~~in pIRES-Hyg vector, or vector control~~], followed by two weeks of hygromycin selection.

Text at page 9 lines 14-27:

In general, a nucleic acid molecule that has "substantially the same nucleotide sequence" as a reference sequence will have greater than about 60% identity, such as greater than about 65%, 70%, 75% identity with the reference sequence, such as greater than about 80%, 85%, 90%, 95%, 97% or 99% identity to the reference sequence over the length of the two sequences being compared. Identity of any two nucleic acid sequences can be determined by those skilled in the art based, for example, on a BLAST 2.0 computer alignment, using default parameters. BLAST 2.0 searching is available [at ~~http://www.ncbi.nlm.nih.gov/gorf/bl2.html.,~~] as described by Tatiana et al., FEMS Microbiol Lett. 174.247-250 (1999). **The BLAST program is available online at U.S. National Cancer Institute's National Cancer Biotechnology Information ("NCBI") website.**

Text at page 19 lines 16-28:

A tumor suppressor nucleic acid molecule containing at least fifteen contiguous nucleotides of SEQ ID NO:2, or a functional fragment thereof, does not consist of a nucleotide sequence having the exact endpoints of nucleotide sequences deposited in public databases at the time of filing, such as Expressed Sequence Tags (ESTs), Sequence Tagged Sites (STSs) and genomic fragments, deposited in databases such as the nr, dbest, dbsts, gss and htgs databases, which are available for searching [~~at http://www.ncbi.nlm.nih.gov/blast/blast.cgi?Jform=0,~~] using the program BLASTN 2.0.9 [May-07-1999] described by Altschul et al., Nucleic Acids Res. 25:3389-3402 (1997). **The BLAST program is available online at U.S. National Cancer Institute's National Cancer Biotechnology Information ("NCBI") website.**

AMENDMENTS TO THE CLAIMS

3. (Amended) A substantially pure [~~tumor suppressor~~] nucleic acid molecule comprising [~~substantially the same~~] **a nucleic acid sequence that has greater than 95% sequence identity with the** nucleic acid sequence **shown** as SEQ ID NO:5, [~~or a functional fragment thereof~~] **wherein said nucleic acid molecule encodes a polypeptide that functions as a tumor suppressor molecule**.

4. (Amended) A substantially pure tumor suppressor nucleic acid molecule encoding [~~substantially the same~~] **the** amino acid sequence **shown** as SEQ ID NO:6[~~, or encoding a functional fragment thereof~~].